

### UNITED STATES ENVIRONMENTAL PROTECTION AGENCY

REGION 5

EMERGENCY RESPONSE BRANCH 1 25089 CENTER RIDGE ROAD WESTLAKE, OH 44145

1.9 MAY 2010

#### **MEMORANDUM**

SUBJECT: ACTION MEMORANDUM - Request for a Time-Critical Removal Action at

the Cleveland Trencher Site, Euclid, Cuyahoga County, Ohio (Site ID #B5SJ)

FROM: Stephen Wolfe, On-Scene Coordinator

Emergency Response Branch - Section 1

THRU: Jason H. El-Zein, Chief

**Emergency Response Branch 1** 

TO: Richard C. Karl, Director

**Superfund Division** 

#### I. PURPOSE

The purpose of this Memorandum is to request and document your approval to expend up to \$959,348 in order to conduct a time-critical removal action to eliminate an imminent and substantial threat to public health, welfare, and the environment at the Cleveland Trencher (CT) Site. The presence of hazardous substances as defined by 40 Code of Federal Regulations, Part 261, Subpart C, has been documented by the Ohio Environmental Protection Agency (Ohio EPA) during a Site assessment performed on March 5, 2009. These include large quantities of drums and containers, many in poor condition or leaking their contents. U.S. EPA On-Scene Coordinators Stephen Wolfe and James Justice assisted with the Site assessment. In addition, asbestos-containing material (ACM) in the building rubble piles and material contaminated with polychlorinated biphenyls were also documented on Site during the Site assessment. The proposed removal action is necessary in order to mitigate the immediate threat to public health, welfare, and the environment posed by the hazardous materials present at the CT Site. The CT Site is located at 20100 St. Clair Avenue, Euclid, Cuyahoga County, Ohio.

The response action proposed herein will mitigate Site conditions by properly removing and transporting the following for off-site disposal: drums and other containers of hazardous material; hazardous material sludges inside tanks and sumps; solid waste and oils; and solid

debris contaminated with asbestos-containing material (ACM). This response action will be conducted in accordance with Section 104(a)(1) of the Comprehensive Environmental Response, Compensation, and Liability Act (CERCLA), 42 USC § 9604(a)(1).

Additional Site activities will include perimeter and work zone air monitoring and sampling, demolition and disposal of contaminated flooring and solid material, and dismantling of tanks, transformers and other structures. The fact that the Site contains hazardous materials in an uncontrolled area in the City limits requires that this removal be classified as a time-critical removal action. Removals involving asbestos when it is the principal contaminant of concern have been designated as nationally significant; however asbestos is not the principal contaminant at the CT Site. The removal will follow precedents and protocols set by other asbestos cleanups. The project will require an estimated 60 on-site working days to complete.

The CT Site is not on the National Priorities List (NPL).

#### II. SITE CONDITIONS AND BACKGROUND

CERCLIS ID #OHN 000 510 393

#### A. Physical Location and Description

The CT Site is located at 20100 St Clair Avenue, Euclid, Cuyahoga County, Ohio 44117 and the geographical coordinates for the Site are: latitude 41°34' 44" North and longitude 81° 32' 10" West. The CT Site encompasses approximately 14.5 acres of land and contains approximately 140,000 square feet of buildings. Approximately 70,000 square feet of buildings have been demolished previously. Entrance to the site is controlled via a locked gate. The entire property is fenced; however the fence is in poor condition with existing gaps.

The Site is located in an industrial neighborhood. The Site is bordered to the north by St Clair Avenue and railroad tracks. Other active industrial properties surround the Site on all sides. The nearest residential properties are located less than 0.5 miles southeast and northwest of the site.

The area surrounding the Cleveland Trencher Site was screened for Environmental Justice (EJ) concerns using Region 5's EJ Assist Tool (which applies the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT)). Census tracts with a score of 1, 2, or 3 are considered to be high-priority potential EJ areas of concern according to EPA Region 5. The Cleveland Trencher Site is in a census tract with a score of 1 (Attachment 4). Therefore, Region 5 considers this Site to be a high-priority potential EJ area of concern.

#### B. Site Background

The Cleveland Trencher Company (CT) manufactured heavy excavating and trenching equipment at the Site since the early 1920s. The company went through several ownership changes throughout its history, and limited production has occurred at the site since the late 1980s. The plant was idled in early 2000. In 2002, CT entered into a promissory note and mortgage with the Joseph J. Piscazzi Revocable Trust (Trust), as well as a Deed of Trust in which Mr. Gary Thomas was granted the right to sell the Site in the event CT defaulted on the loan from the Trust. CT defaulted on the loan and was eventually evicted. In 2007, Mr. Thomas entered into an agreement with a demolition contractor to demolish buildings on Site in order to prepare the property for sale. The demolition contractor hired a subcontractor for asbestos abatement work. The Cleveland Division of Air Quality (CDAQ) conducted inspections during the demolition activities and cited Mr. Thomas and the contractors for National Emmisions Standards for Hazardous Air Pollutants (NESHAP) violations related to improper asbestos abatement prior to demolition. In addition, CDAQ notified Ohio EPA of the presence of drums containing unknown materials at the Site.

In 2008, Ohio EPA inspected the facility, documented the presence of numerous drums, and issued Notice of Violation (NOV) letters to Mr. Thomas requesting that the wastes be evaluated and disposed. In January 2009, Ohio EPA, U.S. EPA and CDAQ inspected the Site with Mr. Thomas and documented the presence of drums, containers, asbestos, and other hazardous materials. Mr. Thomas informed Ohio EPA that he and the Trust were unwilling to evaluate and dispose of the waste. Subsequently, Ohio EPA (with assistance from U.S. EPA) returned to the Site on March 5, 2009, to obtain samples.

Samples from the site assessment indicated the presence of D001 hazardous wastes (characteristic of ignitability [flashpoint less than 140 degrees Fahrenheit]), D008 hazardous wastes (characteristic of toxicity [lead TCLP values greater than 5 milligrams per liter]), D035 hazardous waste (characteristic of toxicity [Methyl Ethyl Ketone (MEK) TCLP values greater than 200 milligrams per liter]), polychlorinated biphenyls in electrical transformers, uncontrolled ACM as documented by the CDAQ, and many open or leaking drums. On April 30, 2009, Ohio EPA issued NOV letters for violations of Ohio hazardous waste laws to Mr. Thomas and to the Trust; however, no response was received. Ohio EPA formally referred the Site to U.S. EPA on May 20, 2009.

Refer to Attachment 5 for a data table summarizing Ohio EPA's analytical results.

# III. THREATS TO PUBLIC HEALTH, WELFARE, OR THE ENVIRONMENT, AND STATUTORY AND REGULATORY AUTHORITIES

The conditions at the CT Site present an imminent and substantial threat to the public health, or welfare, and the environment, and meet the criteria for a time-critical removal action

provided for in Section 300.415(b)(2) of the National Oil and Hazardous Substances Pollution Contingency Plan (NCP), as amended. These factors include, but are not limited to, the following:

### A) Actual or potential exposure to nearby human populations, animals, or the food chain from hazardous substances or pollutants or contaminants;

Due to the Site's location, it is susceptible to trespass. Graffiti is present inside some of the buildings, as well as evidence that some rooms are used as shelter. Children's toys were also present on the property. Animal tracks are also visible on the property. Asbestos has been documented in the demolition debris of the demolished portion of the facility and poses the threat of off-site release. Known drums of hazardous waste (D001, D008, D035) as well as D008 hazardous waste in a partially demolished paint booth, are present on Site. These materials pose a direct threat to any individuals accessing the Site and will continue to be a risk until stabilized.

#### **ASBESTOS**

Both the City of Cleveland's survey and the Ohio EPA's Site assessment have confirmed the presence of asbestos containing material (ACM) in rubble piles at the Site. The Site is susceptible to trespass by scrappers and minors, whose actions may lead to a release of ACM threatening human health and the environment.

Asbestos is the name given to a number of naturally occurring fibrous minerals with high tensile strength, the ability to be woven, and resistance to heat and most chemicals. Because of these properties, asbestos fibers have been used in a wide range of manufactured goods, including roofing shingles, ceiling and floor tiles, paper and cement products, textiles, coatings, and friction products such as automobile clutch, brake, and transmission parts. The current federal definition of asbestos is the asbestiform varieties of: chrysotile (serpentine); crocidolite (riebeckite); amosite (cummingtonite/grunerite); anthophyllite; tremolite; and actinolite.

Exposure to airborne friable asbestos may result in a potential health risk because persons breathing the air may breathe in the asbestos fibers. Continued exposure can increase the amount of fibers that remain in the lung. Fibers embedded in lung tissue over time may cause serious lung diseases including: asbestosis, lung cancer, or mesothelioma. According to the Agency for Toxic Substance and Disease Registry (ATSDR), asbestos mainly affects the lungs and the membrane that surrounds the lungs. Breathing high levels of asbestos fibers for a long time may result in scar-like tissue in the lungs and in the pleural membrane (lining) that surrounds the lung. This disease is called asbestosis and is usually found in workers exposed to asbestos, but not in the general public. People with asbestosis have difficulty breathing, often a cough, and in severe cases heart enlargement. Asbestosis is a serious disease and can eventually lead to disability and death.

Breathing lower levels of asbestos may result in changes called plaques in the pleural membranes. Pleural plaques can occur in workers and sometimes in people living in areas with high environmental levels of asbestos. Effects on breathing from pleural plaques alone are not usually serious, but higher exposure can lead to a thickening of the pleural membrane that may restrict breathing.

#### **LEAD**

The effects of lead exposure are more severe for young children and the developing fetus through exposure to a pregnant woman. The harmful effects of lead include premature births, lower birth weight, decreased mental ability in the infant, learning difficulties, and reduced growth in young children. The main target for lead toxicity is the nervous system, both in adults and children. Long-term exposure of adults can result in decreased performance in some tests that measure functions of the nervous system. It may also cause weakness in fingers, wrists, or ankles. Lead exposure also causes small increases in blood pressure, particularly in middle-aged and older people and can cause anemia. Exposure to high lead levels can severely damage the brain and kidneys in adults or children and ultimately cause death. High-level exposure in men can damage the organs responsible for sperm production.

#### MEK (2-butanone)

Methyl Ethyl Ketone (MEK), also known as 2-butanone, can cause mild respiratory affects on humans when inhaled. These symptoms include irritation of the eyes, nose, throat and lungs. MEK is used as a solvent and when combined with other chemicals may enhance the effects the other chemicals have on the human body. In animals, breathing high levels of MEK has caused nervous system effects such as dizziness, loss of consciousness and death. Drinking water contaminated with MEK has caused kidney damage in animals.

### B) Hazardous substances or pollutants or contaminants in drums, barrels, tanks, or other bulk storage containers that pose a threat of release;

Based on the analytical results and field observations obtained during the Ohio EPA Site assessment, hazardous substances are present on site in 55-gallon drums, and numerous small containers (5 gallons or less). There is a large transformer, as well as 3 smaller pole mounted transformers, located on Site. The large transformer was sampled and results indicated it contained PCB oil at 6 parts per million. Many of the drums do not have lids and some are leaking their contents to the environment. These containers contain Resource Conservation and Recovery Act (RCRA) hazardous wastes as defined by the following waste codes: D001 (characteristic of ignitibility [flash point analytical result less than 140 degrees Fahrenheit]), D008 (characteristic of toxicity for lead [TCLP result greater than 5 milligrams per liter]), D035 (characteristic of toxicity for MEK [TCLP result greater than 200 milligrams per liter]) and are present on Site in an uncontrolled manner and pose current and continued risk to anyone

accessing the property. In addition, due to the partial demolition, a paint booth is exposed to the elements and samples of the dried paint from the area exhibit the D008 characteristic hazardous waste.

The Site buildings are partially demolished and, due to improper asbestos abatement, are contaminated with friable asbestos. The friable asbestos is uncontrolled and due to weather conditions could be carried by winds to the neighboring active facilities endangering workers.

# C) High Levels of hazardous substances or pollutants or contaminants in soils largely at or near the surface that may migrate;

No soil samples were collected during the Ohio EPA Site assessment; however, the visual evidence of leaking drums and containers suggests that there is some soil contamination present at the Site. If any soil contamination is not addressed, the possibility exists for airborne or surface water migration of the contaminants.

### D) Weather conditions that may cause hazardous substances or pollutants or contaminants to migrate or be released;

A portion of the facility was demolished, exposing the building and its contents to the elements. Heavy rains could potentially cause the asbestos present in the demolition debris, as well as the paint waste from the paint booth, to be washed out of the building. Rain water could accumulate in the USTs and release any product contained in them to the environment. Most of the drums are located outside of any building and are exposed to the elements. The continuing cycle of freeze/thaw and rains damages the containers and there is visual evidence that some are currently leaking. Exposure to adverse weather conditions will continue to deteriorate the conditions of the drums, which could increase the potential for the migration or further release of the hazardous materials at the Site.

#### E) Threat of fire or explosion;

There are numerous containers of flammable material located on Site which could catch fire or explode due to the actions of vagrants or trespassers. Any smoke plume associated with an ori-site fire could impact the workers at neighboring facilities.

# F) The availability of other appropriate Federal or state response mechanisms to respond to the release.

In a letter dated May 20, 2009, Ohio EPA requested assistance from the U.S. EPA in conducting an investigation and a time-critical removal action at the CT Site. Neither Ohio EPA nor any other local government has adequate finances or resources to respond to a time-critical removal action of this magnitude.

#### IV. ENDANGERMENT DETERMINATION

Given the Site conditions, the nature of the hazardous substances on the Site, and the potential exposure pathways described in Sections II and III above, actual or threatened releases of hazardous substances from this Site, if not addressed by implementing the response actions selected in this Action Memorandum, present an imminent and substantial endangerment to public health, or welfare, or the environment.

#### V. PROPOSED ACTIONS AND ESTIMATED COSTS

The OSC proposes the following actions to mitigate threats posed by the presence of hazardous substances at the Site:

- 1) Develop and implement a Site Health and Safety Plan, Contingency Plan, and Air Monitoring/Sampling Plan;
- 2) Remove and dispose of asbestos-contaminated building debris;
- Remove and dispose of PCB-contaminated transformers and PCB-contaminated surfaces:
- 4) Remove and dispose of all drums and other containers of hazardous materials, contaminants, or pollutants;
- 5) Transport and dispose of all hazardous material, or contaminants at an EPA-approved disposal facility in accordance with U.S. EPA's Off-Site Rule (40 CFR § 300.440);
- 6) Render any large storage tanks unusable at the Site;
- 7) Investigate for and remove contaminated surface soil due to leaking containers;
- 8) Take any necessary response action to address any release or threatened release of a hazardous substance, pollutant, or contaminant that the U.S. EPA determines may pose an imminent and substantial endangerment to the public heath or the environment.

The removal action will be conducted in a manner not inconsistent with the NCP. The OSC has initiated planning for provision of post-removal site control consistent with the provisions of Section 300.415(l) of the NCP. Elimination of all surface threats is, however, expected to minimize the need for post-removal Site control.

The removal activities described in this memorandum will require an estimated 60 on-site working days to complete.

A detailed cleanup contractor cost estimate is presented in Attachment 1 and estimated project costs are summarized below:

#### REMOVAL PROJECT CEILING ESTIMATE

#### **EXTRAMURAL COSTS:**

Regional Removal Allowance Costs:	
Total Cleanup Contractor Costs	\$ 625,792
(This cost category includes estimates for ERRS, and subcontractors.)	
Contractor Contingency 15%	\$ 93,869
Subtotal ERRS	\$ 719,481
Other Extramural Costs Not Funded from the Regional Allowance:	
Total START, including multiplier costs	<u>\$ 79,976</u>
Subtotal, Extramural Costs	\$ 799,457
Extramural Costs Contingency	<u>\$ 159,891</u>
(20% of Subtotal, Extramural Costs)	
TOTAL, REMOVAL ACTION PROJECT CEILING	\$ 959,348

The response actions described in this memorandum directly address the actual or threatened release at the CT Site of a hazardous substance, or of a pollutant, or of a contaminant which may pose an imminent and substantial endangerment to public health or welfare or to the environment. These response actions do not impose a burden on affected property disproportionate to the extent to which that property contributes to the conditions being addressed.

#### Applicable or Relevant and Appropriate Requirements

All applicable, relevant, and appropriate requirements (ARARs) of Federal and state law will be complied with to the extent practicable. On April 6, 2010, U.S. EPA verbally requested that Frank Zingalas (Ohio EPA) identify any applicable state ARARs. Any ARARs identified in a timely fashion will be addressed as appropriate.

All hazardous substances, pollutants, or contaminants removed off-site pursuant to this removal action for treatment, storage, and disposal shall be treated, stored, or disposed at a facility in compliance, as determined by U.S. EPA, with the U.S. EPA Off-Site Rule, 40 C.F.R. § 300.440.

# VI. EXPECTED CHANGE IN THE SITUATION SHOULD ACTION BE DELAYED OR NOT TAKEN

Given the Site conditions, the nature of the hazardous substances documented on Site, and the potential exposure pathways to nearby populations described in Sections II and III above, actual or threatened release of hazardous substances from the Site, if not addressed by implementing the response actions selected in this Action Memorandum, will continue to present an imminent and substantial endangerment to public health, welfare, or the environment.

#### VII. OUTSTANDING POLICY ISSUES

None.

#### IX. ENFORCEMENT

For administrative purposes, information concerning the enforcement strategy for this Site is contained in the Enforcement Confidential Addendum.

The total EPA costs for this removal action based on full-cost accounting practices that will be eligible for cost recovery are estimated to be \$1,6351,712.

 $($959,348 + $50,000) + (61.66\% \times $1,009,348) = $1,631,712$ 

Direct Costs include direct extramural costs and direct intramural costs. Indirect costs are calculated based on an estimated indirect cost rate expressed as a percentage of site-specific direct costs, consistent with the full cost accounting methodology effective October 2, 2000. These estimates do not include pre-judgment interest, do not take into account other enforcement costs, including Department of Justice costs, and may be adjusted during the course of a removal action. The estimates are for illustrative purposes only and their use is not intended to create any rights for responsible parties. Neither the lack of a total cost estimate nor deviation of actual total costs from this estimate will affect the United States right to cost recovery.

#### X. <u>RECOMMENDATION</u>

This decision document represents the selected removal action for the Cleveland Trencher Site, Euclid, Cuyahoga County, Ohio, developed in accordance with CERCLA as amended, and is not inconsistent with the NCP. This decision was based upon the administrative record (Attachment 1) for the Site. Conditions at the Site meet the NCP Section 300.415(b) criteria for a removal and I recommend your approval of the proposed removal action. The total removal action project ceiling if approved will be \$959,348. Of this, an estimated \$879,372 may be used for cleanup contractor costs. You may indicate your decision by signing below:

APPROVE: _	Director, Superfund Division	_ DATE:	5-19-10
DISAPPROVE: _	Director, Superfund Division	DATE:	

Enforcement Addendum

Attachments: 1. Administrative Record Index

- 2. Detailed Cleanup Contractor Cost Estimate
- 3. Independent Government Cost Estimate
- 4. Region 5 EJ Analysis
- 5. Summary Data Table, Ohio EPA analytical results

cc: D. Chung, U.S. EPA, 5202-G

M. Chezik, U.S. Department of the Interior, w/o Enf. Addendum Michael Chezik@ios.doi.gov

Chris Korleski, Director, Ohio EPA, w/o Enf. Addendum Chris.Korleski@epa.state.oh.us

Kevin Clouse, Ohio EPA, w/o Enf. Addendum Kevin.Clouse@epa.state.oh.us

Richard Cordray, Ohio Attorney General, w/o Enf. Addendum <u>Dale.Vitale@ohioattorneygeneral.gov</u>

#### ENFORCEMENT CONFIDENTIAL ADDENDUM

### CLEVELAND TRENCHER SITE EUCLID, CUYAHOGA COUNTY, OHIO

MAY 2010

(REDACTED 3 PAGES)

ENFORCEMENT CONFIDENTIAL NOT SUBJECT TO DISCOVERY



### U.S. ENVIRONMENTAL PROTECTION AGENCY REMOVAL ACTION

#### ADMINISTRATIVE RECORD

#### FOR

### CLEVELAND TRENCHER SITE EUGLID, CUYAHOGA COUNTY, OHIO

### ORIGINAL MAY 2010

NO.	DATE	AUTHOR	RECIPIENT	TITLE/DESCRIPTION PAGES
1	00/00/00	Ohio EPA	U.S. EPA	Ohio EPA Time-Critical 343 Removal Action Referral Package w/Attachments for the Cleveland Trencher Site
2	09/00/95	ATSDR	File	ToxFAQs Sheet: 2-Butanone 2 CAS #78-93-3
3	09/00/01	ATSDR	File	ToxFAQs Sheet: Asbestos 2 CAS #1332-21-4
4	08/00/07	ATSDR	File	ToxFAQs Sheet: Lead 2 CAS #7439-92-1
5	05/20/09	Savis, H., Ohio EPA	Durno, M., U.S. EPA	Letter re: Ohio EPA 4 Request for U.S. EPA Assistance in Conducting a Removal Action at the Cleveland Trencher Site
€ .	04/06/10	Wolfe, S., U.S. EPA	File	Conversation Record: Call 1 to F. Zingales re: Discussion of Access Issue and EPA's Plan to Move Forward with Removal Action at the Cleveland Trencher Site
7	04/07/10	Zingales, F., Ohio EPA	Wolfe, S., U.S. EPA	E-mail Message re: Ohio 1 EPA Response to U.S. EPA Request for ARARS for the Cleveland Trencher Site
ę	00/00/00	Wolfe, S., U.S. EPA	Karl, R., U.S. EPA	Action Memorandum: Request for a Time-Critical Removal Action at the Cleveland Trencher Site (PENDING)

#### DETAILED CLEANUP CONTRACTOR ESTIMATE CLEVELAND TRENCHER SITE EUCLID, CUYAHOGA COUNTY, OHIO May 2010

The estimated cleanup contractor costs necessary to complete the removal action at the Cleveland Trencher Site are as follows:

TOTAL ERRS	\$ 625,792
Transportation and Disposal	\$ 248,230
Equipment	\$ 133,190
Personnel	\$ 244,372

#### INDEPENDENT GOVERNMENT COST ESTIMATE

CLEVELAND TRENCHER SITE EUCLID, CUYAHOGA COUNTY, OHIO

MAY 2010

(REDACTED 2 PAGES)

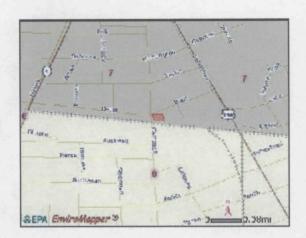
NOT RELEVANT TO THE SELECTION OF THE REMOVAL ACTION

#### EJ ANALYSIS CLEVELAND TRENCHER SITE EUCLID, CUYAHOGA COUNTY, OHIO May 2010

#### R5 Superfund EJ Analysis for the Cleveland Trencher Site

The area surrounding the Cleveland Trencher Site was screened for Environmental Justice (EJ) concerns using Region 5's EJ Assist Tool (which applies the interim version of the national EJ Strategic Enforcement Assessment Tool (EJSEAT)). Census tracts with a score of 1, 2, or 3 are considered to be high-priority potential EJ areas of concern according to EPA Region 5. The Cleveland Trencher Site is in a census tract with a score of 1 (Attachment A). Therefore, Region 5 considers this Site to be a high-priority potential EJ area of concern. Please refer to the attached analysis for additional information.

Region 5 Interim EJ Screening Tool Analysis





Analysis of a digitized polygon .001 sq/mi

#	Question	Answer	Example	Report
1	Within 400 meters of a Great Lakes shoreline?	No		
2	Within Great Lakes basin?	Yes		
3	Within 1609 meters (1 mile) of a Nuclear Power Plant?	No		
4	Within 1609 meters (1 mile) of an Electric Power Plant?	No		
5	Within 400 meters of an Educational Institution?	No		
6	Within 400 meters of a hospital?	No		
7	Is there an FRS facility within 1609 meters?	Yes	110009668582	
8	Within a Census Tract designated as a high-priority area of potential environmental justice concerns?	No		
9	Within 1609 meters (1 mile) of Census Tracts designated as a high-priority area of potential environmental justice concern?	No		
10	Display all the EJ Scores within 1609 meters or one mile?	Yes	5	Resident .
11	Within 1609 meters (1 mile) of a RCRA 2020 Facility?	Yes		

# Within 1609 meters (1 mile) of Census Tracts designated as a high-priority area of potential environmental justice concern?

#	ST_ABBR	FIPS	EJ_RANK	POP2000	EJSEAT	
1	ОН	39035117800	1	2493	64.6	
2	ОН	39035152701	2	2501	56.8	
3	ОН	39035152604	2	4710	53.0	
4	ОН	39035152603	3	1310	49.4	
5	ОН	39035152502	1	2638	64.7	
6	ОН	39035117202	2	2314	54.0	

#### **CLEVELAND TRENCHER SITE** SUMMARY DATA TABLE, OHIO EPA ANALYTICAL RESULTS **EUCLID, CUYAHOGA COUNTY, OHIO** May 2010

RDOUS WASTE						
FLASH	REG LEVEL	pH	REG LEVEL <sup>2</sup>	TCLP MEK	REG LEVEL <sup>8</sup>	TCLP LE
(°F)	(°F)	(S.U.)	) (S.U.)	(MG/L)	(MG/L)	(MG/L)
73	<140	NT	≤2 OR ≥12.5	<50	≥200	NT
84 (Top) / 78 (Middle)	<140	NT	≤2 OR ≥12.5	2110 (Middle)	≥200	NT
93 (Top) / 98 (Bottom)	<140	NT	≤2 OR ≥12.5	223 (Top) / 223 (Bottom)	≥200	NT
72 (Top) / 104 (Bottom)	<140	NT	≤2 OR ≥12.5	<0.005	≥200	NT
80 (Top) / >140 (Bottom)	<140	NT	≤2 OR ≥12.5	129 (Top)	≥200	NT
NT	<140	NT	≤2 OR ≥12.5	97.1/94.8	≥200	9.87/10
>140	<140	NT	≤2 OR ≥12.5	7.53	≥200	< 0.05
NT	<140	2.1	≤2 OR ≥12.5	NT	≥200	NT
63/67	<140	NT	≤2 OR ≥12.5	NT	≥200	NT
NT	<140	NT	≤2 OR ≥12.5	NT	≥200	7.37
>140	<140	NT	≤2 OR ≥12.5	NT	≥200	NT
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Note 1: Hazardous Waste Regulatory Level, OAC rule 3745-51-22 - An aqueous liquid is considered a corrosive hazardous waste when its pH is ≤2 or ≥12.5.

Note 3: Hazardous Waste Regulatory Level, OAC rule 3745-51-24 - A waste is considered a characteristic hazardous waste when its pH is ≤2 or ≥12.5.

Note 3: Hazardous Waste Regulatory Level, OAC rule 3745-51-24 - A waste is considered a characteristic hazardous waste when tested using the toxicity characteristic leaching procedure (TCLP) and found to contain a contaminant at a concentration ≥ the respective level listed in this rule.